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Amendment to the Claims:

1. (Currently Amended) A Gifford-McMahon refrigerator comprising:

a housing,

a cylindrical working chamber,

5 a cylindrical displacing member,

a gap defined between the housing and the displacing member,

a first regenerator which is disposed inside the displacing member,

a device alternatingly supplying the working chamber with an effective high-pressure gas and an effective low-pressure gas, and

10 a material having a high thermal capacity embedded in at least one surface that defines the gap to define a gap-gas second regenerator disposed in thermal communication with the gap.

2. (Currently Amended) The refrigerator in accordance with claim 1, further including:

a second stage equipped with a second gap gas regenerator.

3. (Currently Amended) The A refrigerator in accordance with claim 1, wherein comprising:

a housing,

a cylindrical working chamber,

5 a cylindrical displacing member,

a gap defined between the housing and the displacing member,

a first regenerator which is disposed inside the displacing member,

a device alternatingly supplying the working chamber with an effective high-pressure gas and an effective low-pressure gas, and

10 a gas gap regenerator disposed in thermal communication with the gap, the gap gas regenerator includes including a single layer wire coil extending in the axial direction, said coil being arranged on a side of the gap in a wall of one of the displacing member and the refrigerator housing.

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4. (Currently Amended) The refrigerator in accordance with claim 1, wherein the ~~gap-gas second~~ regenerator is accommodated in a hollow chamber which is located in a housing of the displacing member.

5. (Currently Amended) The A refrigerator in accordance with claim 4, wherein comprising:

a housing,

a cylindrical working chamber,

5 a cylindrical displacing member,

a gap defined between the housing and the displacing member,

a first regenerator which is disposed inside the displacing member,

a device alternatingly supplying the working chamber with an effective high-pressure gas and an effective low-pressure gas,

10 a gas gap regenerator disposed in thermal communication with the gap,  
the gap gas regenerator being accommodated in a hollow chamber which is located in  
a housing of the displacing member, the hollow chamber is being linked to the gap  
through axially spaced radial bores and further including: and

15 a seal located between the radial bores such that pressure drop across the seal is greater than a pressure drop across the gap gas regenerator.

6. (Currently Amended) The refrigerator in accordance with claim [[2]] 4, wherein the second ~~gap-gas~~ regenerator is disposed in a hollow chamber in an area of a warm end of a displacing member of the a second stage.

7. (Previously Presented) The refrigerator in accordance with claim 8, further including:

a further seal located relative to the first seal at the warm end of the second stage displacing member.

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8. (Previously Presented) The refrigerator in accordance with claim 6,  
further including:

space radial bores extending between the hollow chamber and the gap;  
and,

5 a first seal extending into the gap between the bores.